



## **CAPE COD NATIONAL SEASHORE LONG-TERM ECOSYSTEM MONITORING PROGRAM**

### **PROGRAMMATIC STANDARD OPERATING PROCEDURES**

#### **Safety Standards and Procedures for Monitoring Projects (P2)**

Version: 1  
August 2005

---

## **1. Purpose and Applicability**

This programmatic SOP identifies required safety training and establishes procedures for all staff, volunteers, and visiting scientists implementing CACO's long-term monitoring protocols.

## **2. Procedures and General Requirements**

### **2.1 Required Safety Training and Procedures**

All project managers, seasonal staff, volunteers, and visiting scientists working on long-term monitoring protocols will receive the safety training and implement the procedures in Table 1. All project managers and year-round staff will refresh themselves on these safety topics at least annually. It is recommended that this occur at the beginning of each data collection cycle in conjunction with seasonal staff training. Table 1 summarizes the minimum content to be covered during training, provides a list of resources where available, and establishes mandatory safety procedures. The I&M Coordinator and the Division's Safety Committee representatives will review this SOP and Table 1 before each field season to ensure the referenced resources and requirements are up to date.

### **2.2 Project-specific Safety Training and Procedures**

Each protocol will include a safety SOP which will incorporate this programmatic SOP by reference. The protocol-specific safety SOP will also specify any additional safety topics, training, and procedures needed to conduct the monitoring project in manner consistent with CACO's Safety Policy. Also, during revision of monitoring protocols and immediately following any accident or near-miss, project managers will evaluate the monitoring procedures and materials involved to determine if additional safety training or procedures are appropriate. The CACO Safety SOP on Job Hazard Analysis (CACO SOP # S002) is a useful tool to help project managers identify safety concerns associated with specific monitoring activities. Project managers can review Table 2 for recommended training content, resources, and procedures likely to pertain to several of CACO's long-term monitoring protocols. In addition, any protocol involving use of the analytical lab, chemicals, or hazardous materials should be reviewed by the Lab Manager to ensure appropriate safety and environmental management procedures are included.

### **2.3 Reporting and Documenting Safety Training**

Table 1 will also be used as a checklist to document that appropriate safety training has occurred and that project staff agree to implement safety procedures. Additional project-specific safety training or procedures can be extracted from the safety SOP of the relevant protocol and appended to Table 1. Upon completion of safety training, Table 1 will be signed by the project staff member, volunteer, or visiting scientist. Some of the required training will be accomplished through CACO Safety Training Modules. Each module includes a completion certificate that should be printed and signed by the person completing the training and by their supervisor. The signed completion certificate should be attached to the signed check list. The project manager will forward a copy of the signed check list and module completion certificates to the CACO Safety Officer to document that the training has been completed. Currently, the Personnel office distributes a Safety Orientation Checklist to supervisors for each new seasonal staff hire; a completed, signed copy of the checklist is to

be returned to Personnel for their records. Although Table 1 is organized slightly differently than the CACO Safety Orientation Checklist, there is complete overlap of topics pertinent to monitoring operations. Therefore, the procedures established by this programmatic SOP will also enable the project manager and new staff member to complete the CACO Checklist at the same time.

#### **2.4 Project Supervision**

Project managers will check in with project staff at regular intervals (at least once a month) to evaluate the efficacy of safety procedures and to maintain a general awareness of safe practices. More frequent check-in is recommended for new staff and during the summer field season. All staff and supervisors are encouraged to use the CACO employee award program to reward diligence, innovation, or other demonstrations of staff commitment to safety. Project managers should also refresh themselves at least annually on the procedures and documentation requirements associated with workmen's compensation.

### **3. Revision log for P2: Safety Standards and Procedures for Monitoring Projects**

<b>Summary of Revisions</b>	<b>New Version Number</b>	<b>Effective Date</b>
Original version finalized	Version 1	8/2005

**Table 1 - Required Safety Training and Procedures for All LTEM Projects**

<b>Topic</b>	<b>Training: Minimum Content</b>	<b>Resources</b>	<b>Procedures</b>
CACO Safety Rules and Policies	<ul style="list-style-type: none"> <li>-location and general contents of CACO Safety Manual</li> <li>-overview of Park Safety Policy and related rules</li> <li>-role of Safety Committee and identification of Division representatives</li> </ul>	<ul style="list-style-type: none"> <li>-Park Safety Policy (Memo dated May 18, 1999)</li> <li>-CACO SOP # S001 and # S017</li> </ul>	<ul style="list-style-type: none"> <li>- project staff will review the Park Safety Policy and SOPs S001 and 0017 at least once a year</li> <li>-new project staff will read these materials during their initial safety training and orientation, and before engaging in any work in the field or analytical lab</li> </ul>
Safety Reporting and Documentation	<ul style="list-style-type: none"> <li>-how to report an accident</li> <li>-how to report a safety hazard</li> <li>-use and location of Safety Documentation Forms (SDF)</li> </ul>	<ul style="list-style-type: none"> <li>-CACO SOP # S021</li> </ul>	<ul style="list-style-type: none"> <li>- incidents or hazards will be reported and documented appropriately</li> <li>-the project manager will review SDFs and will evaluate whether monitoring procedures should be modified to eliminate or reduce risk</li> </ul>
NACL - General Safety	<ul style="list-style-type: none"> <li>-analytical lab orientation for non-users</li> <li>-fire extinguisher and first aid kit locations</li> <li>-what to do in case of accident or emergency</li> <li>-evacuation route</li> <li>-float plan procedures</li> </ul>	<ul style="list-style-type: none"> <li>-NACL Health and Safety Program Manual</li> <li>-Lab Manager and LabTech</li> <li>-Emergency instruction sheet</li> </ul>	<ul style="list-style-type: none"> <li>-project staff will comply with analytical lab safety rules at all times</li> <li>-the float plan table will be filled out by each person or team prior to heading out to the field</li> </ul>
Working Alone	<ul style="list-style-type: none"> <li>-radio use</li> </ul>	<ul style="list-style-type: none"> <li>-list of radio call numbers and important phone numbers (eg. 911, dispatch, District Rangers' offices, etc)</li> </ul>	<ul style="list-style-type: none"> <li>-project staff working alone in the field will carry either a radio or cell phone</li> <li>-staff planning to work alone in the analytical lab after hours or on weekends must obtain prior approval from their supervisor and from the Lab Manager or Lab Tech</li> <li>-staff planning to work alone with shop equipment after hours or on weekends must obtain prior approval from their supervisor</li> </ul>
Vehicle Safety	<ul style="list-style-type: none"> <li>-use and limitations of 4WD vehicles</li> <li>-vehicle safety equipment use</li> <li>-defensive driving</li> <li>-what to do in case of an accident</li> </ul>	<ul style="list-style-type: none"> <li>-NACL Vehicle Coordinator</li> <li>-CACO Government Vehicle Safety Checklist</li> </ul>	<ul style="list-style-type: none"> <li>-project staff will wear seatbelts, drive with headlights on at all times, and obey all traffic regulations</li> <li>-staff will use cones and reflective vests as instructed</li> <li>-staff will demonstrate extraordinary driving etiquette, particularly in the summer on Rt 6</li> <li>-staff will maintain vehicles clean and free of safety hazards</li> <li>-all vehicle problems will be reported immediately</li> </ul>

**Table 1 - Required Safety Training and Procedures for All LTEM Projects - continued**

<b>Topic</b>	<b>Training: Minimum Content</b>	<b>Resources</b>	<b>Procedures</b>
Common Hazards	-stinging insect nests on structures, cable posts, sheds, etc -proper lifting and carrying technique -slip/trip/fall/eye hazards		
Heat Stress	-heat stress prevention -symptoms of heat stress	-CACO SOP # S003 -local forecast info: <a href="http://www.srh.noaa.gov/data/forecasts/MAZ022.php?warncounty=MAC001&amp;city=Truro">http://www.srh.noaa.gov/data/forecasts/MAZ022.php?warncounty=MAC001&amp;city=Truro</a>	-new or summer seasonal project staff will read the referenced CACO Safety SOP during their initial safety training and orientation, and before engaging in any field work -project staff will wear appropriate clothing and carry ample water and sunscreen when working in the field
Hypothermia	-hypothermia prevention -symptoms of hypothermia	-local forecast info: <a href="http://www.srh.noaa.gov/data/forecasts/MAZ022.php?warncounty=MAC001&amp;city=Truro">http://www.srh.noaa.gov/data/forecasts/MAZ022.php?warncounty=MAC001&amp;city=Truro</a>	- when working in the field fall through spring, project staff will wear appropriate clothing, will carry ample fluids, and will carry or store in the vehicle an extra, dry layer of clothing -staff will maintain waders or other waterproof PPE in proper, leak-free condition
Lyme and Tick-Bourne Disease	-preventing tick bites (clothing, repellant) -detecting ticks -treating field clothes -tick identification -Lyme disease symptoms	-CACO SOP # S SOPS004 -CACO Safety Training Module: Lyme Disease and Tick Protection Program at Y:\Natural_Resources_Div\Training\tick_complete_03_2005.ppt	- new project staff will read the SOP during their initial safety training and orientation, and before engaging in any field work -new project staff will complete the referenced Safety Training Module -staff will perform a tick check at the conclusion of each field day -use of insect repellent is recommended -project managers will ensure that staff know the location of MSDSs for insect repellent
Poison Ivy	-identifying poison ivy -preventing exposure -post-contact prevention -symptoms and treatment		-use of pre-contact solution (such as Ivy Block) and post-contact washes (such as Tecnu) are recommended if working in areas with poison ivy -project managers will ensure that staff know the location of MSDSs for pre- and post-contact solutions

**Table 1 - Required Safety Training and Procedures for All LTEM Projects - continued**

<b>Topic</b>	<b>Training: Minimum Content</b>	<b>Resources</b>	<b>Procedures</b>
Brown-tail moth	-identifying brown-tail moth tents and caterpillars -preventing exposure -symptoms and treatment	-USDA info: <a href="http://www.fs.fed.us/na/durham/ima/pubs_maps/pdf/browntail_moth2.pdf">www.fs.fed.us/na/durham/ima/pubs_maps/pdf/browntail_moth2.pdf</a>	-field staff will be alert for browntail clusters when entering potential habitat - use of protective lotion (such as Ivy Block) is recommended when entering into potential browntail habitat
Hunting Season	-Cape Cod hunting seasons -rules regulating hunting in the park	-MassWildlife hunting info: <a href="http://www.mass.gov/dfwelfare/dfw/dfwrec.htm">http://www.mass.gov/dfwelfare/dfw/dfwrec.htm</a>	for field work conducted during hunting season: -staff will wear hunter orange vests or coats when working in hunting areas with poor visibility (woods, shrubs) -project managers will ensure staff are aware of hunting season dates and which field sites are in hunting areas -extra caution will be exercised during shotgun deer season; field work in wooded hunting areas will be avoided during this time if possible

I acknowledge that these safety topics above have been reviewed, and I agree to implement the safety procedures described above.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Project Manager: Please provide the CACO Safety Officer with a copy of the signed check list.

**Table 2 - Training and Implementation Standards That May Apply to One or More Protocols**

<b>Topic</b>	<b>Training: Minimum Content</b>	<b>Resources</b>	<b>Procedures</b>
Safety for Analytical Lab Users	-to be determined by the Lab Manager and/or Lab Tech depending on the type of chemical and equipment use planned	-NACL Health and Safety Program Manual	-implementation standards recommended by the Lab Manager and/or Lab Tech will be incorporated into the Safety SOP for each protocol that requires use of the analytical lab
Canoe/Kayak Use	-lifting, lowering, and carrying techniques -required equipment -canoe/kayak entry, exit, and paddling -hazardous conditions -what to do in the event of capsize	-CACO SOP # S0014 (this SOP is geared toward canoe use in interpretive programs but has useful information)	-when in use, a canoe or kayak must be equipped with a PFD for each person and a 5-10 ft length of rope tied to the bow or stern -anyone using a canoe or kayak alone, or at least one person in each team of two or more, must demonstrate they have the ability and experience to control and safely paddle a canoe or kayak
Motor Boat Operation	-DOI Motor Boat Operators' Safety Course	-Course Coordinator for CACO	-only certified (through the referenced course) operators may use motorized vessels -crew and passengers will comply with any directives from the certified operator of the vessel